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Special Test Piece for Quantitative Ultrasonic Bone Density Detector

Ultrasonic body model--Equipment packing list

1. KSG Series Bone Density Analyzer Ultrasonic Body Mold (Quantitative Ultrasonic Bone Density Specimen) 1 set

Specifically including:

KSG-1 type ultrasonic calcaneus model (high speed)	1 piece
KSG-4 type ultrasonic calcaneus model (medium speed)	1 piece
KSG-5 type ultrasonic calcaneus model (low speed)	1 piece
KSG-2 type ultrasonic calcaneus model (tetrahedron)	1 piece
KSGR-1 type ultrasonic radius model (pvc)	1 piece
KSGR-2 type ultrasonic radius model (copper)	1 piece
KSGR-3 type ultrasonic radius model (polystyrene)	1 piece
2. Instruction Manual	2 copies
3. Test Certificate	7 copies
4. Warranty Certificate	1 copy
5. Certificate of Conformity	7 copies

The ultrasonic diagnostic instruments for detecting the acoustic properties of bones (now known as "ultrasonic bone densitometers") are divided into two major categories: those for cancellous bone and those for cortical bone. The most representative and easily detectable part of cancellous bone is the calcaneus. The clinical detection parameters of the calcaneus ultrasonic detector are mostly two items: sound velocity (SOS) and broadband ultrasonic attenuation (BUA). Currently, the most suitable means for evaluating the accuracy (standard deviation) and precision (repeatability) of calcaneus ultrasonic detection is certain types of polyurethane rubber specimens.

Substitute the temperature value displayed by the inspected instrument into the given formula, and the required SOS and BUA values can be calculated. For the double-surface wedge-shaped specimen, the provided formula is the fitted equation for the relationship between SOS, BUA and temperature measured between the two planes at the root.

The ultrasonic diagnostic instruments for detecting the acoustic properties of bones (now known as "ultrasonic bone densitometers") are divided into two major categories: those for trabecular bone and those for cortical bone. The most representative and easily detectable part of cortical bone is the radius. The clinical detection parameters of the ultrasonic radius detector are mostly sound velocity. Currently, the most suitable means for evaluating the accuracy (standard deviation) and precision (repeatability) of ultrasonic radius detection is ultrasonic test pieces such as acrylic glass and copper.

Main Technical Parameters and Indicators:

1. Radius Bone Model: Made of a material with a sound velocity range applicable for ultrasonic

bone density detection of the radius. The sound velocity range is (2500 - 3000) m/s. The shape is a rectangular one (length: 135 mm, width: 50 mm, height: 21 mm). The material should have uniform density and the surface should be highly polished. The size tolerance should not exceed ±0.1 mm. (Provide temperature-dependent longitudinal sound velocity and corresponding uncertainty)

2. Calcaneus Bone Model: Made of a material with a sound attenuation range similar to that of the calcaneus. The sound velocity range is (1400 - 1700) m/s. The shape is a rectangular one (length: 60 mm, width: 50 mm, height: 40 mm). The size tolerance should not exceed ±0.1 mm.

When delivering, the calcaneus bone model should be accompanied by a temperature-dependent SOS and BUA test report, and the radius bone model should be accompanied by a temperature-dependent longitudinal sound velocity test report.